

Section II. INSTALLATION

2.1. Introduction

This section describes and illustrates information necessary to install the TDRSS User RF Test Set (TURFTS) and make it completely operational. Setup procedures, cabling and wiring information, initial test and adjustment procedures, and packing for shipment instructions are provided.

2.2. Unpacking and Inspection

When the unit is received perform the following:

- a) Inspect outside of shipping crate for any evidence of damage. Note any special handling labels and instructions on crate. Remove consolidated shipping list from envelope.
- b) Remove waterproof barriers, shipping blocks and cushioning materials.
- c) Observe that any desiccant is colored blue (pink indicates presence of moisture). If moisture is detected, notify shipper of equipment. If amount of moisture on equipment is significant return to sender.
- d) Inventory equipment and ensure all parts listed on shipping list have been received. Notify shipper of any discrepancies.
- e) Visually inspect equipment chassis and cards for shipping damage. Open the top cover of each chassis enclosure and inspect to ensure that all circuit cards seat firmly and all RF cable connections are tight.

2.3. Setup Procedures

- a. Insure all AC power and interface cables are properly connected.
- b. Turn AC rack power on.
- c. Turn computer system on
- d. Turn on commercial test equipment
- e. Turn on RF Distribution Unit (RFDU) from the rear of chassis
- f. Turn on fan assembly under the Signal Processing Unit (SPU)
- g. Turn on the SPU from the rear of chassis
- h. When the computer network initializes enter the password. Double click on the TURFTS icon unless the Start Up group contains the TURFTS Icon. The user will be asked to select a Fault Log Filename. Click on OK if the correct directory and filename is displayed. If the filename already exists the user will be asked to replace it. Click OK if you want to write over the selected fault file. The program will then load in the default STM2 (TDRS self test mode 2) configuration file.

2.4 Initial Adjustment and Test Procedures

2.4.1 Transmitter and Receiver Attenuators Calibration

2.4.2 I PN and Q PN attenuators Calibration

2.4.3 GN Modulation Index Calibration

2.4.4 Self Test Modes:

TDRSS-Forward Link (F/L):

TDRSS-Return Link (R/L) 1:

TDRSS-R/L 2:

TDRSS-R/L 3:

Ground Network (GN) Carrier Only:

GN Carrier plus Subcarrier:

GN Carrier plus Subcarrier PSK'd with data:

GN Carrier plus Baseband data:

GN Carrier plus Subcarrier and Baseband data:

GN Carrier plus Subcarrier PSK'd with data plus Baseband data:

2.4.5 Transponder Modes

DRAFT

HEG-OM-TURFTS-XX.05
ME-tbd

2.5. Packing for Shipment

2.5.1. Packing Instructions

The specific requirements for packing and crating for shipment are established by GSFC-TD-PCES-1 (Specification for Packing and Crating Equipment for Export Shipment). The following general packing procedures are provided as a guide:

- a. Use solid-sheathed containers lined with waterproof material. If unit does not completely fill the container, support and isolate it with cushioning material to prevent shifting or damage from shock or vibration during transit.
- b. Secure all loose parts (mounting hardware) and movable components with pressure sensitive tape.
- c. Prominently place special handling labels or stencils on shipping container. Place a copy of the shipment packing list inside and attach a copy in a weatherproof envelope to one end and one side of the container.

2.5.2. Shipment Packing List Information

The shipment packing list includes the following information:

- a. FROM: (shipper's name)
- b. SHIP TO: (address provided in shipping instructions)
- c. VIA: (as provided in shipping instructions)]
- d. MARK FOR: (as required by shipping instructions)
- e. BOX NO:
- f. WEIGHT:
- g. CUBE: